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| 10/589,663 | 08/16/2006 | Yusuke Yamada | 0033-1093PUS1 | 9971 |
| 2292 7590 07/21/2011 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 | | | | |
| EXAMINER ANDREWS, LEON T | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/589,663

Applicant(s)

YAMADA, YUSUKE

Examiner

LEON ANDREWS

Art Unit

2462

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. **Claims 1-8 and 10** are rejected under 35 U.S.C. 103 (a) as being unpatentable by Onoe et al. (Pub. No.: US 2005/0163130 A1) in view of Enns et al. (Pub. No.: US 2006/0098669 A1).

Regarding Claim 1, Onoe et al. discloses a transmission device (transmitter for performing packet communication, ¶ [0032], page 1, lines 2-5) conducting communication with predetermined quality ensured, comprising:

a classification unit (transmitter for adding header and data portion of the packet, ¶ [0015], page 2, lines 1-3) classifying a packet of data to be transmitted (classify by packets; transmission packets are classified into packets, ¶ [0086], page 6, lines 1-2) according to each packet header (transmission side packet header contains class information, ¶ [0014], page 2, lines 2-4; Header added to the packet to be transmitted, ¶ [0015], page 2, lines 1-2),

a determination unit (relay node detects the packet identifier, ¶ [0015], page 2, lines 4-5) organizing a set of packets having the same packet header as a packet group according to a classified result by said classification unit, and determining whether to be transmitted with a bandwidth guaranteed according to a bit rate of the packet group (packet identifier from the packet header decides the related packet is guaranteed in bandwidth and transfer the related packet in a bandwidth set at a bandwidth speed of the bandwidth guaranteed packet, ¶ [0015], page 2, lines 5-11), and

a request unit (identifier from the packet communication, ¶ [0015], page 2, lines 4-5) requesting a bandwidth control device to reserve a bandwidth for a packet group determined to be transmitted with a bandwidth guaranteed (packet identifier from the packet header decides that the related packet is guaranteed in bandwidth and transferred in a bandwidth set of the guaranteed bandwidth, ¶ [0015], page 2, lines 5-9) by said determination unit.

Onoe et al. fails to specifically disclose requesting reserve bandwidth with a bandwidth guarantee.

But, Enns et al. discloses bandwidth requested and reserving the amount of bandwidth with guaranteed bandwidth reservation, ¶ [0072], page 8, lines 8-13.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Enns et al.'s limitation because this would have allowed the amount of bandwidth requested to be reserved, ¶ [0072], page 8, lines 11-13.

Regarding Claim 2, Onoe et al. discloses the transmission device according to claim 1, wherein said determination unit comprises

a measurement unit (table with identifier, ¶ [0011], page 1, line 2) measuring the bit rate per predetermined unit time (bit rate data transfer where the transfer speed of the data is represented by 100 bps, ¶ [0011], page 1, lines 9-11; packet transfer speed at the time the identifier is added and the related packet is transferred, ¶ [0015], page 2, lines 4-10) of said packet group,

a calculation unit (table with guaranteed bandwidth, ¶ [0011], page 1, lines 2-3) calculating a parameter representing variation in the bit rate with a latest predetermined number of data to be a subject from a measured result by said measurement unit (Fig. 3, packet indicated by a guaranteed bandwidth is represented by a bit rate of data transfer speed whereby the packet is transferred with respect to the requested transfer speed, ¶ [0011], page 1, lines 9-16), and

a packet determination unit (relay node identifies/detects the packet, ¶¶ [0011] and [0015], page 1, line 13 and page 2, lines 4-5 respectively) determining that the packet group is a packet group to be transmitted with a bandwidth guaranteed when the parameter calculated by said calculation unit is at most a preset value (guaranteed bandwidth of the packets to be transferred represented by numerals with respect to a requested transfer speed, ¶ [0011], page 1, lines 11-17; packet in a bandwidth set of the guaranteed bandwidth is transferred at a constant speed (preset value) of the bandwidth guaranteed packet, ¶ [0015], page 2, lines 6-11).

Onoe et al. fails to specifically disclose bandwidth guaranteed when the parameter is at a preset value.

But, Enns et al. discloses streaming using guaranteed bandwidth requires fixed bit rate, ¶ [0072], page 8, lines 17-20. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Enns et al.'s limitation because this would have allowed the amount of bandwidth requested to be reserved, ¶ [0072], page 8, lines 11-13.

Regarding Claim 3, Onoe et al. discloses the transmission device according to claim 2, wherein said

calculation unit increases the number of data to be the subject of calculation when the calculated parameter is larger than a preset value and recalculates the parameter (packets indicated by bandwidth guarantee of 100 and 150 represented by data of 100 and 150 respectively are represented by numerals proportional to the guaranteed bandwidth with respect to the requested transfer speed, ¶ [0011], page 1, lines 5-17), and

said packet determination unit determines that the packet group is the packet group to be transmitted with a bandwidth guaranteed when a value of said recalculated parameter is at most the preset value (guaranteed bandwidth of the packets to be transferred represented by numerals with respect to a requested transfer speed, ¶ [0011], page 1, lines 11-17; packet in a bandwidth set of the guaranteed bandwidth is transferred at a constant speed (preset value) of the bandwidth guaranteed packet, ¶ [0015], page 2, lines 6-11).

Onoe et al. fails to specifically disclose parameter is larger than a preset value and recalculates the parameter.

But, Enns et al. discloses if the total amount bandwidth allocated exceeds the limit, it can be modified with controller striving to reach the limit, ¶ [0072], page 8, lines 2-7.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Enns et al.'s limitation because this would have allowed the amount of bandwidth requested to be reserved, ¶ [0072], page 8, lines 11-13.

Regarding Claim 4, Onoe et al. discloses the transmission device according to claim 2, wherein said calculation unit repeats calculation of the parameter until the parameter becomes at most the preset value (Fig. 3, packets indicated by bandwidth guarantee of 100 and 150 represented by

data 100 and 150 represented by numerals and performing packet communication with respect to the requested speed, ¶ [0011], page 1, lines 5-17), or said number of data to be the subject becomes a maximum that is determined in advance, while sequentially increasing the number of data to be the subject.

Onoe et al. fails to specifically disclose bandwidth guaranteed when the parameter is at a preset value.

But, Enns et al. discloses streaming using guaranteed bandwidth requires fixed bit rate, ¶ [0072], page 8, lines 17-20.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Enns et al.'s limitation because this would have allowed the amount of bandwidth requested to be reserved, ¶ [0072], page 8, lines 11-13.

Regarding Claim 5, Onoe et al. discloses a transmission device conducting communication with predetermined quality ensured, comprising:

a classification unit classifying a packet of data to be transmitted (transmission packets are classified into packets, ¶ [0086], page 6, lines 1-2) according to each packet header (transmission side packet header contains class information, ¶ [0014], page 2, lines 2-4),

a determination unit organizing a set of packets having the same packet header as a packet group according to a classified result by said classification unit, and determining whether to transmit with a bandwidth of said packet group ensured (packet identifier from the packet header decides the related packet is guaranteed in bandwidth and transfer the related packet in a

bandwidth set at a bandwidth speed of the bandwidth guaranteed packet, ¶ [0015], page 2, lines 5-11), and

a request unit requesting a bandwidth control device to reserve a bandwidth for a packet group (packet identifier from the packet header decides that the related packet is guaranteed in bandwidth and transferred in a bandwidth set of the guaranteed bandwidth, ¶ [0015], page 2, lines 5-9),

wherein said determination unit calculates a buffer capacity required when a packet group is to be transmitted in a specific bandwidth (bandwidth guarantee set with respect to communication is assigned a queue, ¶ [0015], page 2, lines 1-3; queue prepared for the bandwidth contains a buffer for holding the packet data, ¶ [0018], page 2, lines 1-4), performing the calculation with the bandwidth changed (packets indicated by bandwidth guarantee of data 100 and 150 are represented by numerals proportional to the guaranteed bandwidth, ¶ [0011], page 1, lines 5-13), deriving a relationship between a required bandwidth and a required buffer capacity (queues prepared for the bandwidth contains a buffer for holding the packet data, ¶ [0018], page 2, lines 1-4), and determining whether the packet group is a packet group to be transmitted with a bandwidth guaranteed from said relationship (bandwidth guarantee set with respect to communication contains packet data to be transferred, ¶ [0015], page 2, lines 1-7).

Onoe et al. fails to specifically disclose requesting reserve bandwidth with a bandwidth guarantee.

But, Enns et al. discloses bandwidth requested and reserving the amount of bandwidth, ¶ [0072], page 8, lines 8-13.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Enns et al.'s limitation because this would have allowed the amount of bandwidth requested to be reserved, ¶ [0072], page 8, lines 11-13.

Regarding Claim 6, Onoe et al. discloses the transmission device according to claim 5, wherein said determination unit extracts a maximum value of the buffer capacity required for each requested bandwidth (packet bandwidth to actively use the resources to the highest limit in an effort to raising the transfer speed of the packets as much as possible, ¶ [0026], page 2, lines 4-7; with the queues prepared for the bandwidth containing a buffer for the packet data, ¶ [0018], page 2, lines 1-4), and determines whether the packet group is a packet group to be transmitted with a bandwidth guaranteed (bandwidth guarantee set with respect to communication contains packet data to be transferred, ¶ [0016], page 2, lines 1-7) depending upon whether a graph representing a relationship between a requested bandwidth and the maximum value of the required buffer capacity is within a predetermined region or not (Fig. 3, packets indicated by bandwidth guarantee of 100, 150, represented by proportional numerals performing the packet communication in the guaranteed bandwidth, ¶ [0011], page 1, lines 5-15).

Onoe et al. fails to specifically disclose maximum value of the buffer capacity required for each requested bandwidth with a bandwidth guaranteed representing a relationship between a requested bandwidth and the maximum value of the required buffer capacity.

But, Enns et al. discloses controller performs bandwidth management with the total amount of bandwidth requested and guaranteed is determined from the storage and the controller strive the reach the limit which can be modified if exceeded, ¶ [0072], page 8, lines 1-11..

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Enns et al.'s limitation because this would have allowed the amount of bandwidth requested to be reserved, ¶ [0072], page 8, lines 11-13.

Regarding Claim 7, Onoe et al. discloses the transmission device according to claim 6, wherein said determination unit causes said request unit to request a bandwidth in said predetermined region (bandwidth requested set by the predetermined packet for certain communication, ¶ [0024], page 2, lines 2-6), and requests a buffer unit to ensure the maximum value of the buffer capacity (bandwidth guarantee set with respect to communication is assigned a queue, ¶ [0015], page 2, lines 1-3; queue prepared for the bandwidth contains a buffer for holding the packet data, ¶ [0018], page 2, lines 1-4) in said predetermined region.

Regarding Claim 8, Onoe et al. discloses the transmission device according to claim 7, wherein said determination unit determines the bandwidth to be requested (bandwidth requested set by the predetermined packet for certain communication, ¶ [0024], page 2, lines 2-6) and the buffer capacity (queue prepared for the bandwidth contains a buffer for holding the packet data, ¶ [0018], page 2, lines 1-4) to be ensured such that a total cost is minimized based on a cost required to ensure the bandwidth (value as the set guaranteed bandwidth, ¶ [0090], page 6, lines 2-6)) and a cost of the buffer capacity (value as the buffer, ¶ [0090], page 6, line 12).

Regarding Claim 10, Onoe et al. discloses the transmission device according to claim 1, wherein, when there is a change of at least a predetermined criterion in characteristics of a bit rate of a packet group once determined to be transmitted with a bandwidth guaranteed by said determination unit, said request unit requests said bandwidth control device to modify the bit rate of the bandwidth guaranteed for the packet group to the latest value (with respect to packet at a transfer speed, bit rate data transfer packet indicated by bandwidth guaranteed 100 and transfer speed of 100 bps with packet indicated by guaranteed bandwidth 150 and transfer speed of 150 bps, the packets represented by numerals proportional to the guaranteed bandwidth, ¶ [0011], page 1, lines 5-17).

Onoe et al. fails to specifically disclose change of at least a criterion in a bit rate with a bandwidth guaranteed requests to modify the bit rate of the bandwidth guaranteed to the latest value.

But, Enns et al. discloses guaranteed bandwidth where the controller reserves bandwidth in increments of 1 Kb per sec can be modified if the traffic limit is exceeded and may require a fixed or variable bit rate, ¶ [0072], page 8, lines 2-20).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Enns et al.'s limitation because this would have allowed the amount of bandwidth requested to be reserved, ¶ [0072], page 8, lines 11-13.

2. **Claims 9 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable by Onoe et al. in view of Enns et al. and Rogers (Pub. No.: US 2001/0036181 A1).

Regarding Claim 9, Onoe et al. discloses the transmission device according to claim 1, wherein, when determination is made by said determination unit that a packet group once determined to be transmitted with a bandwidth guaranteed (related packet is guaranteed in bandwidth and transferred in a bandwidth set of the guaranteed bandwidth, ¶ [0015], page 2, lines 6-9) is not observed for a predetermined time and is no longer necessary to ensure the bandwidth (at time of packet communication related packet not guaranteed in bandwidth, ¶ [0015], page 2, lines 4-7; at time of packet transmission packet is controlled with respect to the queue and transfer carried out with priority in bandwidth unguaranteed packets, ¶ [0021], page 2, lines 7-12), said request unit requests said bandwidth control device to release the bandwidth guaranteed for the packet group (set bandwidth discarded and with bandwidth unguaranteed at speed more than the set bandwidth transfer is not carried out, ¶ [0028], page 3, lines 5-8).

The combination of Onoe et al. and Enns et al. fails to specifically disclose bandwidth control device to release the bandwidth guaranteed.

But, Rogers discloses system guarantees the bandwidth and then releases the bandwidth, ¶ [0025], page 3, lines 9-11.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Rogers's limitation because this would have allowed the system to

guarantee the use and releasing of the bandwidth for use to another application, ¶ [0025], page 3, lines 9-11.

Regarding Claim 11, Onoe et al. discloses the transmission device according to claim 1, wherein, when there is a change of at least a predetermined criterion in characteristics of a bit rate of a packet group once determined to be transmitted with a bandwidth guaranteed by said determination unit, said request unit requests said bandwidth control device (with respect to packet at a transfer speed, bit rate data transfer packet indicated by bandwidth guaranteed 100 and transfer speed of 100 bps with packet indicated by guaranteed bandwidth 150 and transfer speed of 150 bps, ¶ [0011], page 1, lines 5-17) to release the bandwidth guaranteed for said packet group (set bandwidth discarded and the is not carried out, ¶ [0028], page 3, lines 6-8).

Onoe et al. fails to specifically disclose change of at least a criterion of a bit rate with a bandwidth guaranteed.

But, Enns et al. discloses guaranteed bandwidth where the controller reserves bandwidth in increments of 1 Kb per sec can be modified if the traffic limit is exceeded and may require a fixed or variable bit rate, ¶ [0072], page 8, lines 2-20).

The combination of Onoe et al. and Enns et al. fails to disclose release the bandwidth.

But, Rogers discloses released the bandwidth, ¶ [0025], page 3, line 11.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Rogers's release the bandwidth because this would have allowed

the system to guarantee the use and releasing of the bandwidth for use to another application, ¶ [0025], page 3, lines 9-11.

Response to Arguments

3. Applicant's arguments filed May 12, 2011 have been considered as follows:

- In the remarks on pages 3-7 of the amendment, applicant contends that Onoe et al. or Enns et al. fails to teach organizing a set of packets having the same packet header as a packet group according to a classified result by said classification, and determining whether to be transmitted with a bandwidth guaranteed according to a bit rate of the packet group, requesting a bandwidth control device to reserve a bandwidth for a packet group determined to be transmitted with a bandwidth guaranteed, and buffer capacity required when a packet group is to be transmitted in a specific bandwidth performing the calculation with the bandwidth changed deriving a relationship between a required bandwidth and a required buffer capacity determining whether the packet group is a packet group to be transmitted with a bandwidth guaranteed from said relationship.
- The examiner respectfully maintains the prior prosecution and clarifies the prosecution in that Onoe et al. discloses: at the transmit side host packet header contains class information and comprising the packet identifier where

the relay node detects the identifier from the packet header and at a certain transfer rate decides the related packets in a guaranteed bandwidth set, ¶¶ [0014], [0015], page 2, lines 2-7, 1-11, packet identifier comprised by the transmitter host side where the relay identifies the packet request and performing the packet communication for the guaranteed bandwidth request at the requested rate with the related packets in a guaranteed bandwidth set, ¶¶ [0011], [0015], pages 1-2, lines 13-17, 2-9, and storing guaranteed bandwidth for packets to be transferred for packet indicated to have a bandwidth guarantee and represented by numerals proportional to the guaranteed bandwidth with the storing packet corresponding to the guaranteed bandwidth and transfer the related packet in the bandwidth set guaranteed in bandwidth, ¶¶ [0011], [0015], pages 1-2, lines 2-13, 1-8.

Conclusion

4. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON ANDREWS whose telephone number is (571)270-1801. The examiner can normally be reached on Monday through Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rao S. Seema can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/

Supervisory Patent Examiner, Art Unit
2462

/Leon Andrews/
Examiner, Art Unit 2462

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July 16, 2011